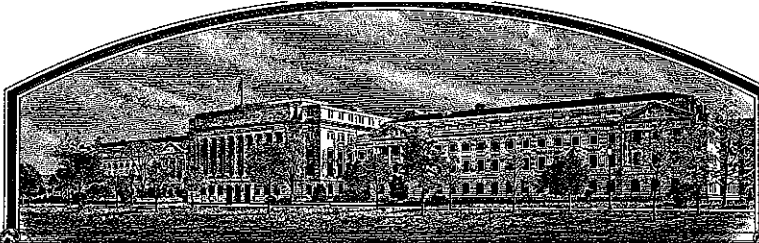


No.

200500098



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

U.S. Government, as represented by the Secretary of Agriculture

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.


NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SORGHUM

'Atlas bmr-12'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-third day of June, in the year two thousand and five.

Attest:


Commissioner
Plant Variety Protection Office
Agricultural Marketing Service


Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

| | | | | | |
|---|--|--|--|---|--|
| 1. NAME OF OWNER U.S. Government, as represented by the Secretary of Agriculture | | 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME Atlas bmr-12 | | 3. VARIETY NAME Atlas bmr-12 | |
| 4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) USDA-ARS Wheat, Sorghum, and Forage Research Unit 344 Keim Hall, East Campus, Univ. of Nebraska, P.O. Box 830937 Lincoln, NE 68583-0937 | | 5. TELEPHONE (include area code) (402) 472-1754 | | <div style="border: 1px solid black; padding: 5px;"> FOR OFFICIAL USE ONLY <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"> POPULATION <div style="font-size: 1.5em; font-weight: bold;">2005 00098</div> </div> FILING DATE <div style="font-size: 1.2em; font-weight: bold;">1/19/2005</div> </div> | |
| 6. FAX (include area code) (402) 472-4020 | | 7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) U.S. Government | | | |
| 8. IF INCORPORATED, GIVE STATE OF INCORPORATION NA | | 9. DATE OF INCORPORATION NA | | <div style="border: 1px solid black; padding: 5px;"> FILING AND EXAMINATION FEES: \$ 3,652.00 DATE 1/19/2005 CERTIFICATION FEE: \$ 432.00 DATE 5-4-2005 </div> | |
| 10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Jeffrey F. Pedersen (Technical Representative of ARS) 344 Keim Hall, East Campus University of Nebraska Lincoln, NE 68583-0937 </div> <div style="width: 45%;"> Richard J. Brenner Assist. Admin. Office of Technology Transfer 5601 Sunnyside Avenue, Room 4-1159 Beltsville, MD 20705-5131 </div> </div> | | | | | |
| 11. TELEPHONE (include area code) (402) 472-1754 | | 12. FAX (include area code) (402) 472-4020 | | 13. E-MAIL jfp@unlserve.unl.edu | |
| 14. CROP KIND (Common Name) forage sorghum | | 16. FAMILY NAME (Botanical) Poaceae | | 18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION. | |
| 15. GENUS AND SPECIES NAME OF CROP Sorghum bicolor | | 17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | |
| 19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office) </div> <div style="width: 50%;"> 20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input type="checkbox"/> NO (If "no", go to item 23) 21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED 22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.) </div> </div> | | | | | |
| 23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.) | | | | | |
| 24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.) | | | | | |
| 25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties. | | | | | |
| SIGNATURE OF OWNER | | | SIGNATURE OF OWNER | | |
| NAME (Please print or type) RICHARD J. BRENNER | | | NAME (Please print or type) RICHARD J. BRENNER | | |
| CAPACITY OR TITLE ASSIST. ADMIN | | DATE 12/22/2004 | | CAPACITY OR TITLE ASSIST. ADMIN | |
| DATE 12/22/2004 | | DATE 12/22/2004 | | DATE 12/22/2004 | |

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT use masking materials to make corrections.** If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

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To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - (3) evidence of uniformity and stability; and
 - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

Foundation seed will be maintained and produced by the University of Nebraska Foundation Seed Division. Certified seed will be produced from Foundation seed and will be limited to one generation.

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Breeder seed was transferred to the University of Nebraska Foundation Seed Division for the production of Foundation seed in May, 2004.

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A - Breeding History

'Atlas *bmr-12*' forage sorghum [*Sorghum bicolor* (L.) Moench] was developed by crossing 'Atlas' to the brown midrib gene (*bmr-12*) source 'F220' (donated to our project by the late Robert Kalton) followed by four cycles of selfing and backcrossing. 'Atlas' is a public cultivar registered by *Crop Science* in 1936. The *bmr-12* gene was publicly released by Purdue University in 1977. Crossing was facilitated by the use of the nuclear male-sterility gene *ms₃*. Following the fourth backcross, the line was selfed and advanced head-to-row for four generations to fix the brown midrib gene in the homozygous recessive condition (*bmr-12 bmr-12*) and the male-sterility loci in the wild-type (*Ms₃ Ms₃*) male-fertile condition. The brown midrib cultivar was then selected for similarity to the wild-type 'Atlas' phenotype and for male fertility.

The main selection criteria was for brown midrib. 'Atlas *bmr-12*' has been observed for 4 generations of reproduction and during one generation of seed increase and was judged to be stable and uniform. No variants were observed during this period of observation.

Exhibit B – Statement of Distinctness

~~'Atlas *bmr-12*' is most similar to 'Atlas'; however, Atlas *bmr-12* has outwardly visible brown midribs, and brown pigmentation in stem pith tissues. Atlas has outwardly visible green midribs, and lacks pigmentation in stem pith tissues.~~

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
SORGHUM AND RELATED CROPS

| | | |
|---|--|-------------------------------------|
| NAME OF APPLICANT (S) U.S. Government, as represented by J. F. PEDERSEN, the Secretary of Agriculture (at: 2/9/2005 per applicant's authorization) | TEMPORARY OR EXPERIMENTAL DESIGNATION ATLAS bmr-12 | VARIETY NAME ATLAS bmr-12 |
| ADDRESS (Street and No., or RD No., City, State, Zip Code, and Country) 344 KEIM HALL, E.C. UNIVERSITY OF NEBRASKA P.O. BOX 830937 LINCOLN, NE 68583-0937 | FOR OFFICIAL USE ONLY PVPO NUMBER 200500098 | |

NOTE: Observations should be made on an appropriate number of well spaced plants (approximately 15 cm spacing).

1. GENERAL CATEGORIES

- 1 Kind: 1 = Sorghum 2 = Sorghum X Alnum 3 = Sudangrass 4 = Johnsongrass 5 = Other _____
- ___ Inbred Type: 1 = Male Sterile 2 = Maintainer 3 = Restorer
- ___ Male Sterile Cytoplasm: 1 = A-1 2 = A-2 3 = A-3 4 = A-4 5 = A-5 6 = Other _____
- 2 Use Class: 1 = Grain 2 = Forage 3 = Silage 4 = Sugar 5 = Syrup 6 = Broomcorn 7 = Multipurpose (specify) _____

2. MATURITY

- 8 0 Days From Planting To Mid-Anthesis
- ___ Number Days Earlier Than ___ 1 = TX3042 2 = Wheatland 3 = TX2737 4 = TX430 5 = Redland
- 1 Number Days Later Than 6 6 = Other Public Line (Specify) ATLAS

3. PLANT

- 1 Coletile: 1 = Green 2 = Red
- 3 Plant Pigment: 1 = Tan 2 = Red 3 = Purple 4 = Other (Specify) _____

4. STALK

- 2 Diameter (Main Stalk): 1 = Slim 2 = Mid-Stout 3 = Stout

5. STALK HEIGHT

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2 4 1 cm From Soil To Top Of Panicle2 7 cm Less Than 6 1 = TX3042 2 = Wheatland 3 = TX2737 4 = TX430 5 = Redland___ cm Greater Than ___ 6 = Other Public Line (Specify) ATLAS

___ No of Recessive Height Genes Plant Height Genotype (Mark only recessive): ___ dw1 ___ dw2 ___ dw3 ___ dw4

1 Waxy Bloom 1 = Present 2 = Absent1 Tillers: 1 = Few 2 = Moderate 3 = Many2 Sweetness: 1 = Sweet 2 = Insipid2 Juiciness: 1 = Dry (Pithy) 2 = Juice3 Panicle Exsertion: 1 = Short 2 = Medium 3 = Long3 Degree of Senescence: 1 = Senescent 2 = Nonsenescent 3 = Intermediate

6. LEAF (First leaf below flag leaf)

2 Width (Relative to Class): 1 = Narrow 2 = Moderate 3 = Wide1 Color: 1 = Light Green 2 = Dark Green2 Margin: 1 = Smooth 2 = Wavy2 Attitude: 1 = Erect 2 = Horizontal 3 = Drooping2 Ligule: 1 = Present 2 = Absent5 Midrib Color: 1 = White 2 = Intermediate 3 = Cloudy 4 = Yellow 5 = Brown

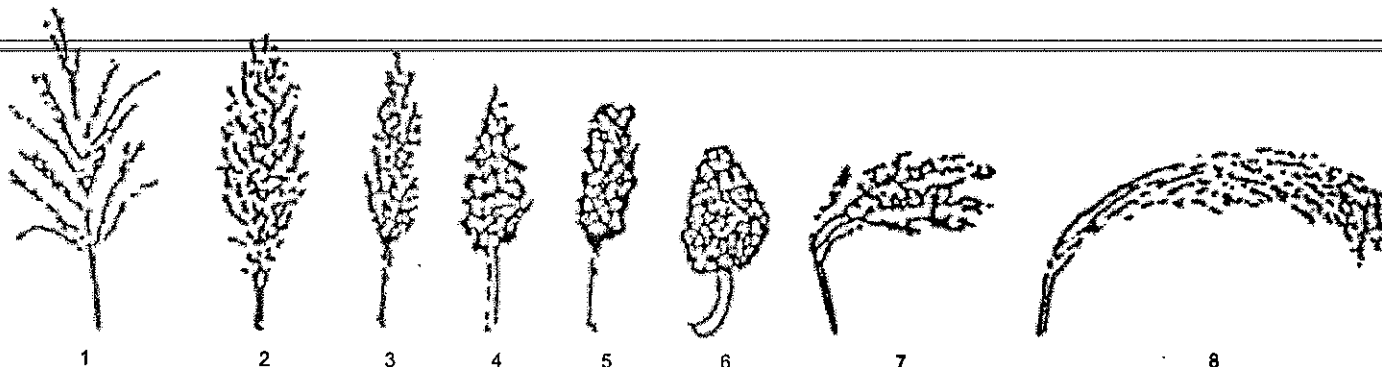
7. PANICLE

3 ANTHOR COLOR (At Flowering) 1 = White 2 = Light Yellow 3 = Dark Yellow 4 = Wine2 2 cm Panicle Length___ 0 cm Less Than 6 1 = TX3042 2 = Wheatland 3 = TX2737 4 = TX430 5 = Redland___ cm Greater Than ___ 6 = Other Public Line (Specify) ATLAS3 Density: 1 = Open 2 = Semi-Open 3 = Semi-Compact 4 = Compact3 Shape: 1 = Round 2 = Oval 3 = Cylindrical 4 = Conical 5 = Obovate2 Length of Central Rachis (% of Panicle Length): 1 = 100% 2 = 75% 3 = 50% 4 = 25%1 Rachis Branches (At Grain Maturity) 1 = Erect 2 = Horizontal 3 = Drooping2 Rachis Branch Average 1 = Short 2 = Intermediate 3 = Long

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7. PANICLE (Continued)

___ Panicle Type (Select Number from Diagram Below)



Glumes

- ___ 2 Length: 1 = Short 2 = Intermediate 3 = Long
- ___ 2 % of Grain Covered by Glume: 1 = 25% 2 = 50% 3 = 75% 4 = 100% 5 = Over 100%
- ___ 2 Texture: 1 = Papery 2 = Intermediate 3 = Tough
- ___ 1 Color (At Grain Maturity): 1 = Black 2 = Mahogany 3 = Red 4 = Sienna 5 = Dark Tan 6 = Light Tan
- ___ 3 Hairiness: 1 = Smooth 2 = Intermediate 3 = Hairy
- ___ Venation: 1 = Present 2 = Absent
- ___ 2 Transverse Wrinkle: 1 = Present 2 = Absent
- ___ 1 Awns: 1 = Absent 2 = Short 3 = Intermediate 4 = Long

8. ROOTS

- ___ 1 1 = Fibrous 2 = Rhizomatous

9. GRAIN

- ___ 1 Testa: 1 = Absent 2 = Present
- ___ Testa Color: 1 = Brown 2 = Purple
- ___ Mesocarp Thickness: 1 = Thin 2 = Intermediate 3 = Thick
- ___ 1 Epicarp Color (Genetic): 1 = White 2 = Lemon Yellow 3 = Red
- ___ 1 Spreader (Tannin in Pericarp): 1 = Absent 2 = Present
- ___ Intensifier: 1 = Absent 2 = Present
- ___ 1 Grain Color (Appearance): 1 = White Pearly 2 = White Chalky (Opaque) 3 = Yellow 4 = Lemon Yellow
5 = Light Red 6 = Dark Red 7 = Light Brown 8 = Reddish Brown 9 = Dark Brown
10 = Purple 11 = Other (Specify) _____

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9. GRAIN (Continued)1 Endosperm Color:

1 = White 2 = Yellow

1 Endosperm Type:

1 = Starchy 2 = Waxy 3 = Sugary

2 Endosperm Texture:

1 = Floury 2 = Intermediate 3 = Corneous

3 Seed Shape:

1 = Round 2 = Oval 3 = Ovate 4 = Turtleback

5 = Flat 6 = Wedge 7 = Other (Specify) _____

4235 No. of Seed per 100 G Genotype (if known):

R, Y, I, Z, B1, B2, S, Tp, Wx, Fl

Define) _____

10. DISEASE RESISTANCE (1 = Susceptible 2 = Intermediate 3 = Resistant)

Bacterial Stripe, Charcoal Rot, Maize Dwarf Mosaic Virus, Ruccinia (Rust), Bacterial Streak, Bacterial Spot, Anthracnose, Head Smut, Sooty Stripe, Downy Mildew, Grain Mold, Fusarium Stalk Rot or Others.

| REACTION | DISEASE | CAUSAL AGENT | RACE OR PATHOTYPE |
|----------|---------|--------------|-------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

11. INSECT RESISTANCE (1 = Susceptible 2 = Intermediate 3 = Resistant)

Sorghum Midge, Chinch Bug, Greenbug or Others.

| REACTION | INSECT | BIOTYPE |
|----------|--------|---------|
| | | |
| | | |
| | | |

12. MOLECULAR TRAITS

13. OTHER DISTINGUISHING TRAITS

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

| | | |
|---|---|--|
| 1. NAME OF APPLICANT(S) U.S. Government, as represented by the Sec. of Agriculture | 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER Atlas bmr-12 | 3. VARIETY NAME Atlas bmr-12 |
| 4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) USDA-ARS Wheat, Sorghum, and Forage Research Unit 344 Keim Hall, E.C., Univ. of Nebraska, P.O. Box 30937 Lincoln, NE 68583-0937 | 5. TELEPHONE (Include area code) (402) 472-1754 | 6. FAX (Include area code) (402) 472-4020 |
| 7. PVPO NUMBER 830937 2/25/2005 (per applicant's authorization) 200500098 | | |
| 8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | |

| | |
|---|---|
| 9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. | <input type="checkbox"/> YES <input type="checkbox"/> NO |
| 10. Is the applicant the original owner? | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If no, please answer <u>one</u> of the following: |
| a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)? | <input type="checkbox"/> YES <input type="checkbox"/> NO If no, give name of country |
| b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company? | <input type="checkbox"/> YES <input type="checkbox"/> NO If no, give name of country |

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

Atlas bmr-12 was bred by Jeffrey F. Pedersen and John J. Toy, employees of the USDA-ARS. Thier rights have been assigned to the U.S. Government, as represented by the Secretary of Agriculture.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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